

Application No. 10/655,354
Response to Office Action

Customer No. 01933

Listing of Claims:

1. (Currently Amended) A microscopic image capture apparatus for capturing a sample image of a sample, said apparatus comprising:

a low-magnification dividing device for dividing an entire area of a slide glass on a stage into field size sections of a predetermined low-powered objective lens;

5 a transfer device for relatively transferring the slide glass on the stage in a direction perpendicular to an optical axis of the low-powered objective lens by relatively transferring 10 the stage with respect to the objective lens;

an image information obtaining device for obtaining image information for each of the field size sections each time the entire area of the slide glass is transferred by the transfer device sequentially through the field size sections of the slide 15 glass;

a high-magnification dividing device for dividing the obtained image information for each field size section into high-magnification size sections corresponding to a magnification of a predetermined high-powered objective lens;

20 a sample image discrimination device for checking each of the high-magnification size sections to determine whether there is sample image information of the sample in the obtained image

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information for each of the high-magnification size sections, and
for discriminating (i) each high-magnification size section

25 including the sample image information as a sample image
inclusion section, and (ii) each high-magnification size section
including no sample image information as a sample image exclusion
section;

a high-magnification image capture device for capturing
30 high-magnification image information using the predetermined
high-powered objective lens only for each said high-magnification
size section discriminated as the sample image inclusion section;
and

an image information generation device for generating
35 high-magnification composite image information about the sample
on the slide glass by generating a high-magnification image such
that a relative position between (i) an area of the
high-magnification image corresponding to the high-
magnification image information obtained by the
40 high-magnification image capture device and (ii) an area of the
high-magnification high-magnification image corresponding to each
said high-magnification size section discriminated as a sample
image exclusion section and not captured by the
high-magnification image capture device, can be correctly
45 maintained.

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2. (Previously Presented) The apparatus according to
claim 1, further comprising an area determination device for
determining a length and a width of a minimum area of the slide
glass containing each said high-magnification size section
5 defined as a sample image inclusion section.

3. (Previously Presented) The apparatus according to
claim 1, wherein the image information generation device
comprises a dummy data assignment device for assigning dummy data
predetermined to be similar to a background of the sample image
5 as image information for each said high-magnification size
section in the area of the high-magnification image not captured
by the high-magnification image capture device.

4. (Previously Presented) The apparatus according to
claim 1, further comprising an arbitrary image information
generation device for generating arbitrary image information
having at least one of a different magnification, a different
5 position, and a different area, based on the high-magnification
composite image information generated by the image information
generation device.

5. (Original) The apparatus according to claim 1, further
comprising a position determination device,

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wherein the image information generation device obtains image information for a field size section while horizontally transferring an entire area of the capture position determined by the position determination device for each field size section of a low-powered objective lens by the transfer device.

5 Claims 6-23 (Canceled).

24. (New) The microscopic image capture apparatus according to claim 1, wherein said image information for each of the high-magnification size sections is captured by the low-powered objective lens.

25. (New) A microscopic image capture method of capturing a sample image of a sample, said method comprising:

dividing an entire area of a slide glass on a stage into field size sections of a predetermined low-powered objective 5 lens;

relatively transferring the slide glass on the stage in a direction perpendicular to an optical axis of the low-powered objective lens by relatively transferring the stage with respect to the objective lens;

10 obtaining image information for each of the field size sections each time the entire area of the slide glass is

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transferred sequentially through the field size sections of the slide glass;

15 dividing the obtained image information for each field size section into high-magnification size sections corresponding to a magnification of a predetermined high-powered objective lens;

20 checking each of the high-magnification size sections to determine whether there is sample image information of the sample in the obtained image information for each of the high-magnification size sections, and for discriminating (i) each high-magnification size section including the sample image information as a sample image inclusion section, and (ii) each high-magnification size section including no sample image information as a sample image exclusion section;

25 capturing high-magnification image information using the predetermined high-powered objective lens only for each said high-magnification size section discriminated as the sample image inclusion section; and

30 generating high-magnification composite image information about the sample on the slide glass by generating a high-magnification image such that a relative position between (i) an area of the high-magnification image corresponding to the obtained high-magnification image information and (ii) an area of the high-magnification image corresponding to each said high-

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35 magnification size section discriminated as a sample image exclusion section, can be correctly maintained.

26. (New) The microscopic image capture method according to claim 25, wherein said image information for each of the high-magnification size sections is captured by the low-powered objective lens.